

**CONCURRENT RESOLUTION REGARDING IMPROVING AIR
QUALITY THROUGH ENHANCED ZERO EMISSION RAIL**

2022 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Melissa G. Ballard

Senate Sponsor: _____

LONG TITLE

General Description:

This concurrent resolution addresses improving air quality through encouraging rail development and zero emission technology deployment.

Highlighted Provisions:

This resolution:

- ▶ addresses air quality and its impacts in the state;
- ▶ describes solutions to reduce air pollution;
- ▶ describes the rail transportation impact on air quality;
- ▶ acknowledges the role of certain governmental agencies in the shift of freight traffic to rail;
- ▶ highlights that technology solutions, including information and communications technology and zero emission locomotives, can further reduce rail emission impacts;
- ▶ provides that a hydrogen fuel cell-electric system is an example of a zero emission engine technology;
- ▶ addresses funding and innovative procurement solutions;
- ▶ encourages the phased replacement of existing locomotives used in railroad and industrial plant switching services in nonattainment areas in the state with zero emission locomotives; and



28 ► encourages the transition of rail transportation in general to zero emission
29 locomotives.

30 **Special Clauses:**

31 None

33 *Be it resolved by the Legislature of the state of Utah, the Governor concurring therein:*

34 WHEREAS, Utah continuously demonstrates the state's commitment to and interest in
35 the state's air quality;

36 WHEREAS, good air quality is a vital component of the economy and human health in
37 Utah and research conducted by Utah universities shows the harmful impacts of air pollution
38 on human health, with the greatest negative impact on the health of children, the elderly, and
39 those with compromised immune systems;

40 WHEREAS, for example, exposure to direct small particulate matter exacerbates
41 asthma, increases the risk of cancer, and leads to acute respiratory symptoms, bronchitis,
42 chronic obstructive pulmonary disease, heart attacks, nervous system effects, lost work days,
43 and premature death;

44 WHEREAS, there is now a broad range of technologically and economically viable
45 solutions to significantly reduce air pollution and ensure that future economic and population
46 growth does not compromise air quality;

47 WHEREAS, embracing zero emission technologies will help grow our state's robust
48 clean technology sector;

49 WHEREAS, as of 2017, railroad transportation contributed 9.2% of NOx and 1.4% of
50 the PM2.5 along the Wasatch Front;

51 WHEREAS, while comparable data is not available for the trucking sector or all freight
52 railroad operations in the state, as of 2017 the Division of Air Quality found that locomotives
53 used for short line and industrial plant operations contributed 3.4% of NOx and 0.16% of
54 PM2.5 of the total Wasatch Front inventory of emissions, equivalent to approximately 1,828
55 tons of NOx and 19 tons of PM2.5;

56 WHEREAS, in addition to significant numbers of heavy haul freight locomotives
57 operating in and through the state, as of 2017 there were approximately 63 short line and
58 industrial plant locomotives operating in Utah;

59 WHEREAS, the majority of the short line and industrial plant locomotives operating in
60 Utah are legacy platforms certified to the United States Environmental Protection Agency as
61 meeting Tier 0 or Tier 0+ emission standards, and almost all emissions from these locomotives
62 occur within two of Utah's PM2.5 nonattainment areas based on the United States National
63 Ambient Air Quality Standards;

64 WHEREAS, under the federal Clean Air Act, an area where air pollution levels
65 persistently exceed a National Ambient Air Quality Standard may be designated as a
66 "nonattainment" area by the United States Environmental Protection Agency;

67 WHEREAS, designation as a nonattainment area requires the development of a State
68 Implementation Plan with increasing mandatory requirements if the area does not return to
69 attainment within prescribed timelines, and may result in the imposition of a Federal
70 Implementation Plan and sanctions that could impact the availability and use of federal
71 highway funds;

72 WHEREAS, the Utah Department of Transportation, other agencies of the state, and the
73 Utah Inland Port Authority, a political subdivision of the state, can play a vital role in
74 accelerating the modal shift of freight traffic to rail, helping to meet health and air quality
75 goals;

76 WHEREAS, the Utah Inland Port Authority anticipates assisting in the reduction of
77 trucks from the road and the modal shift to rail, while using the regulatory sandbox to test new
78 freight movement and cargo handling equipment at the inland port to increase use of zero
79 emission vehicles;

80 WHEREAS, to complement accelerating this modal shift to rail, a broad spectrum of
81 technologies, including information and communications technologies that enable more
82 efficient rail operation reducing fuel use and emissions, and entirely new locomotive power
83 technologies such as hydrogen fuel cell-electric and battery-electric, must be encouraged and
84 supported to further decrease total freight section emissions, including freight rail emissions;

85 WHEREAS, hydrogen especially is an attractive alternative fuel as hydrogen does not
86 contain carbon and when used in fuel cells produces zero emissions;

87 WHEREAS, hydrogen either for onboard energy storage or as part of a hybrid
88 propulsion system provides a viable option in the future for zero emission engines in short line
89 and industrial plant locomotives operated in the state, and in the future, also for heavy-haul

freight locomotives operating in and through the state;

WHEREAS, infrastructure for hydrogen is continuing to expand in the state;

WHEREAS, funding support and innovative procurement solutions made available through the Utah Department of Transportation and the Utah Inland Port Authority can assist private sector operators of short line and industrial plant locomotives with transitioning to zero emission technologies, including for freight rail, that can materially increase the state's air quality; and

WHEREAS, substantial federal funding is expected to be available to support this transition, and the Utah Department of Transportation and the Utah Inland Port Authority should maximize their efforts to secure the federal funding to facilitate deployment of zero emission technologies, including freight rail, that can materially increase the state's air quality:

THEREFORE, BE IT RESOLVED that the Legislature of the state of Utah, the Governor concurring therein, encourages the introduction of new zero emission locomotives operated by short lines and industrial plant railroads in nonattainment areas, a continued shift of freight transportation growth to rail to help meet the state's air quality goals, phasing out legacy locomotive engines in short line and industrial plant rail service in nonattainment areas in the state, and phasing in the use of zero emission engines, including hydrogen fuel cell-electric systems as follows:

- at least one demonstration project of a short line or industrial plant locomotive using a zero emission engine by 2025;
- 25% of short line and industrial plant locomotives use a zero emission engine by 2030;
- 40% of short line and industrial plant locomotives use a zero emission engine by 2035;
- 80% of short line and industrial plant locomotives use a zero emission engine by 2040; and
- 100% of short line and industrial plant locomotives use a zero emission engine by 2050.

BE IT FURTHER RESOLVED that the Legislature and the Governor encourage, in addition to short line and industrial plant locomotives, all rail transition to zero emission technologies, including commuter rail, passenger rail, and long haul freight rail.